OWNER'S MANUAL

Convertible Deep Well Jet Pumps and Tank System

293 Wright St., Delavan, WI 53115
Phone: 1-800-468-7867
1-800-546-7867
Fax: 1-800-390-5351
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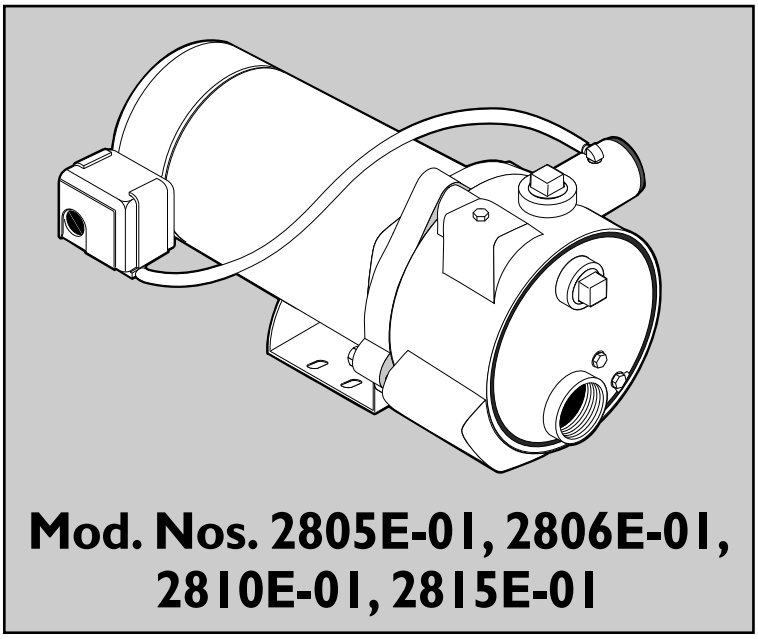

Mod. Nos. 2805E-01, 2806E-01, 2810E-01, 2815E-01

Installation/Operation/Parts

For further operating, installation, or maintenance assistance:

Call 1-800-365-6832

English . . . . . Pages 2-14

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1000000171 (Rev. 6/27/02)

READ AND FOLLOW SAFETY INSTRUCTIONS!

⚠ **This is the safety alert symbol.** When you see this symbol on your pump or in this manual, look for one of the following signal words and be alert to the potential for personal injury:

⚠ DANGER warns about hazards that **will** cause serious personal injury, death or major property damage if ignored.

⚠WARNING warns about hazards that **can** cause serious personal injury, death or major property damage if ignored.

⚠ CAUTION warns about hazards that **will** or **can** cause minor personal injury or property damage if ignored.

The label **NOTICE** indicates special instructions which are important but not related to hazards.

Carefully read and follow all safety instructions in this manual and on pump.

Keep safety labels in good condition.
Replace missing or damaged safety labels.

ELECTRICAL SAFETY

⚠WARNING Hazardous voltage. Can shock, burn or kill. Capacitor voltage may be hazardous. To discharge the motor capacitor, hold the insulated handle screwdriver **BY THE HANDLE** and short the capacitor terminals together. Do not touch the metal screwdriver blade or capacitor terminals. If in doubt, consult a qualified electrician.

GENERAL SAFETY

⚠ CAUTION Burn hazard. Do not touch an operating motor. Modern motors are designed to operate at high temperatures. To avoid burns when servicing pump, allow it to cool for 20 minutes after shut-down before handling.

Do not allow the pump or any system component to freeze. To do so will void the warranty.

Pump water only with this pump.

Periodically inspect the pump and system components.

Wear safety glasses at all times when working on pumps.

Keep the work area clean, uncluttered and properly lighted; store properly all unused tools and equipment.

Keep visitors at a safe distance from the work areas.

⚠WARNING Hazardouse pressure. Risk of explosion. Pump body may explode if used as a booster pump unless a relief valve capable of passing the full pump flow at 75 psi is installed.

⚠ WARNING

Hazardous voltage. Can shock, burn, or cause death.

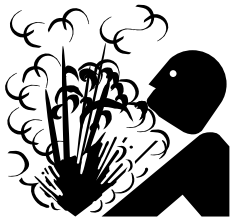
Ground pump before connecting to power supply. Disconnect power before working on pump, motor or tank.

⚠ Wire motor for correct voltage. See "Electrical" section of this manual and motor nameplate.

⚠ Ground motor before connecting to power supply.

⚠ Meet National Electrical Code, Canadian Electrical Code, and local codes for all wiring.

⚠ Follow wiring instructions in this manual when connecting motor to power lines.



⚠ WARNING

Hazardous pressure! Install pressure relief valve in discharge pipe.

Release all pressure on system before working on any component.

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Thank you for purchasing a top quality, factory tested pump.

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Simer Limited Warranty

SIMER warrants to the original consumer purchaser ("Purchaser") of its products that they are free from defects in material or workmanship.

If within twelve (12) months from the date of the original consumer purchase any such product shall prove to be defective, it shall be repaired or replaced at SIMER's option, subject to the terms and conditions set forth below. Your original receipt of purchase is required to determine warranty eligibility.

Exceptions to the Twelve (12) Month Warranty

Five (5) Year Warranty:

If within five (5) years from original consumer purchase any Pre-Charge water system tank shall prove to be defective, it shall be repaired or replaced at SIMER's option, subject to the terms and conditions set forth below.

General Terms and Conditions

Purchaser must pay all labor and shipping charges necessary to replace product covered by this warranty. This warranty shall not apply to acts of God, nor shall it apply to products which, in the sole judgement of SIMER, have been subject to negligence, abuse, accident, misapplication, tampering, alteration; nor due to improper installation, operation, maintenance or storage; nor to other than normal application, use or service, including but not limited to, operational failures caused by corrosion, rust or other foreign materials in the system, or operation at pressures in excess of recommended maximums.

Requests for service under this warranty shall be made by returning the defective product to the Retail outlet or to SIMER as soon as possible after the discovery of any alleged defect. SIMER will subsequently take corrective action as promptly as reasonably possible. No requests for service under this warranty will be accepted if received more than 30 days after the term of the warranty.

This warranty sets forth SIMER's sole obligation and purchaser's exclusive remedy for defective products.

SIMER SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, OR CONTINGENT DAMAGES WHATSOEVER.

THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESS WARRANTIES. IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, SHALL NOT EXTEND BEYOND THE DURATION OF THE APPLICABLE EXPRESS WARRANTIES PROVIDED HEREIN.

Some states do not allow the exclusion or limitation of incidental or consequential damages or limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

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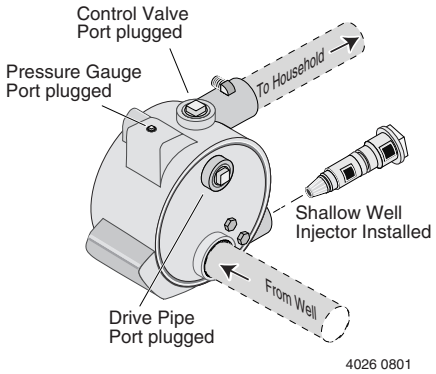


Figure 1: Shallow Well Setup

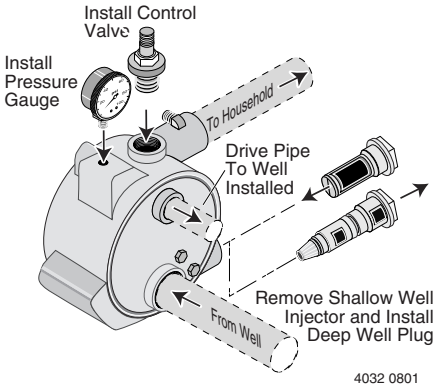


Figure 2: Deep Well Setup

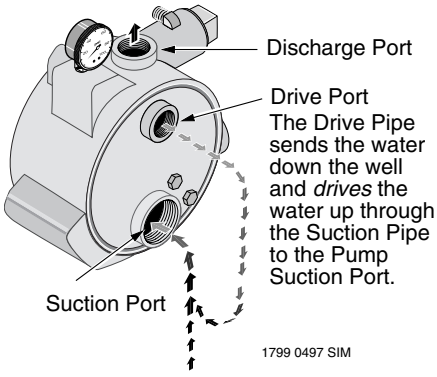


Figure 3: Deep Well Drive and Suction Functions

SHALLOW WELL (Figure 1)

⚠WARNING **Hazardous voltage. Can shock, burn or kill.** Disconnect power to pump before working on pump or motor.

1. Drain and remove the old pump. Check the old pipes for scale, lime, rust, etc., and replace them if necessary.
2. Install the pump in the system (see Figures 4, 5, and 6). Make sure that all of the pipe joints in the suction pipe are air-tight as well as water tight. If the suction pipe can suck air, the pump will not be able to pull water from the well.
3. Adjust the pump mounting height so that the plumbing connections do not put a strain on the pump body. Support the pipe so that the pump body does not take the weight of piping or fittings.

DEEP WELL

⚠WARNING **Hazardous voltage. Can shock, burn or kill.** Disconnect the power to the pump before working on pump or motor.

1. Drain and remove the old pump. Check the pipes for scale, lime, rust, etc., and replace them if necessary.
2. Install the control valve, pressure gauge, and deep well plug in the pump body (purchase kit separately; see Figure 2). When connecting to the well head, be sure you go small port to small port (drive) and large port to large port (suction). If necessary, use flexible pipes and twist them to make the correct connections.
3. Simer pumps have the suction pipe (the larger port) below the drive port (see Figures 2 and 3).
4. Install the pump in the system. Make sure all of the pipe joints in the suction pipe are air-tight as well as water tight. If the suction pipe can suck air, the pump will not be able to pull water from the well.
5. Adjust the pump mounting height so that the plumbing connections do not put a strain on the pump body. Support the pipe so that the pump body does not take the weight of piping or fittings.

   NOTICE: Your old injector system (in the well) may not be properly matched to your new pump. If your pump does not perform properly, we recommend that you install a Simer MDWE Injector Kit (4″ well) or a Simer MDWA Injector Kit (2″ packer-type well).

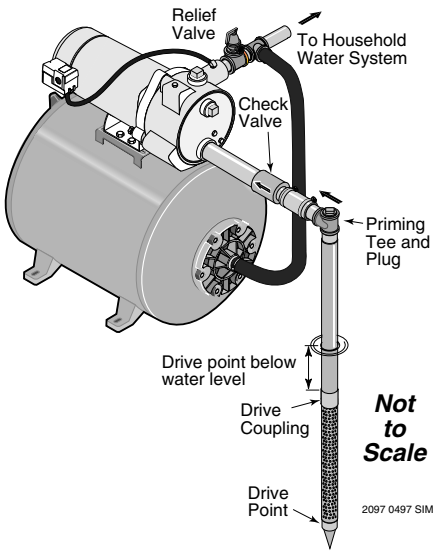


Figure 4: Typical Well-Point Installation

SHALLOW WELL JET PUMP INSTALLATIONS

- Have a vertical depth between the pump and the water being pumped of 25′ or less.
- Have one pipe from the well to the pump case.
- Can be installed in a bored or drilled well, or in a driven well.

WELL POINT INSTALLATION (Figure 4)

1. Drive the well, using “drive couplings” and a “drive cap”. “Drive fittings” are threaded all the way through and allow the pipe ends to butt against each other so that the driving force of the maul is carried by the pipe and not by the threads. The ordinary fittings found in hardware stores are not threaded all the way through the fitting and can collapse under impact. “Drive fittings” are also smoother than standard plumbing fittings, making ground penetration easier.
2. Mount the pump as close to the well as possible.
3. Use the fewest possible fittings (especially elbows) when connecting the pipe from the well point to the pump suction port. The suction pipe should be at least as large as the suction port on the pump (include a check valve). Support the pipe so that there are no dips or sags in the pipe, so it doesn’t strain the pump body, and so that it slopes slightly upward from the well to the pump (high spots can cause air pockets which can air lock the pump). Seal the suction pipe joints with teflon tape. Joints must be air- and water-tight. If the suction pipe can suck air, the pump cannot pull water from the well. If one well point does not supply enough water, consider connecting two or three well points to one suction pipe.

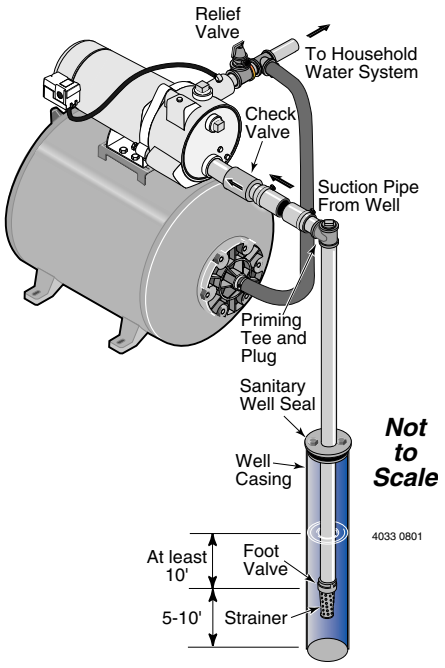


Figure 5: Typical Cased Well Installation

CASED WELL INSTALLATION, 2″ OR LARGER CASING (Figure 5)

1. Mount the pump as close to the well as possible.
2. Assemble the foot valve, strainer, and well pipe. Make sure that the foot valve works freely.
3. Lower the pipe into the well until the strainer is five feet above the bottom of the well. It should also be at least 10 feet below the well’s water level while the pump is running in order to prevent the pump from sucking air. Install a sanitary well seal.
4. Install a priming tee, priming plug, and suction pipe to the pump. Connect the pipe from the well to the pump suction port, using the fewest possible fittings (especially elbows) as fittings increase friction in the pipe. The suction pipe should be at least as large as the suction port on the pump. Use teflon tape on threaded pipe joints. Joints must be air- and water-tight. If the suction pipe can suck air, the pump cannot pull water from the well. Support the pipe so that there are no dips or sags in the pipe, so it doesn’t strain the pump body, and so that it slopes slightly upward from the well to the pump (high spots can cause air pockets which can air lock the pump).

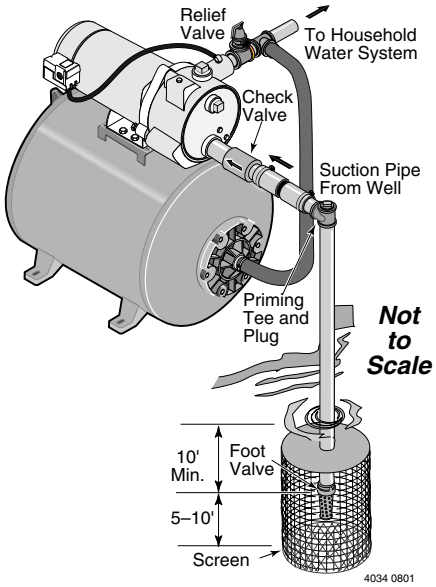


Figure 6: Typical Open Water Installation

INSTALLATION FOR SURFACE WATER (Figure 6)

1. The pump should be installed as close to the water as possible, with the fewest possible fittings (especially elbows) in the suction pipe. The suction pipe should be at least as large as the suction port on the pump.
2. Assemble a foot valve and suction pipe. Make sure that the foot valve works freely. Use Teflon tape™. Protect the foot valve assembly from fish, trash, etc, by installing a screen around it.
3. Lower the pipe into the water until the strainer is five feet above the bottom. It should also be at least 10 feet below the water level in order to prevent the pump from sucking air.
4. Install a priming tee, priming plug, and suction pipe to the pump. Support the pipe so that there are no dips or sags in the pipe, so it doesn't strain the pump body, and so that it slopes slightly upward from the well to the pump (high spots can cause air pockets which can air lock the pump). Seal the suction pipe joints with teflon tape. Joints must be air and water tight. If the suction pipe can suck air, the pump cannot pull water from the well.

New Deep Well Installation

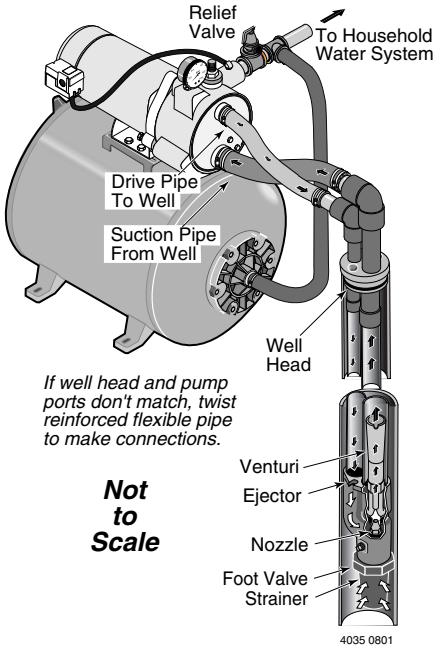


Figure 7: Typical 2" and 4" Deep Well Installation

4" OR LARGER WELL (Figure 7)

1. Install the control valve, the pressure gauge and the deep well injector plug in the pump body. See Figure 2. Purchase Model MDWC Deep Well Conversion Kit to obtain these parts.
2. Mount the pump as close to the well as possible.
3. Install a flexible pipe between the well head and the pump so the connection will be correct. Connect small port to small port and large port to large port.
   NOTICE: Simer jet pumps have the suction port (the larger port) below the drive port. See Figure 3.
4. Connect both the suction and drive pipes to the ejector piping and lower the ejector into the well until it is five feet from the bottom. It should also be at least 10 feet below the well's water level while the pump is running in order to prevent the pump from sucking air.
5. Install a sanitary well seal and connect the ejector piping to the pump. Use steel nipples through the well seal with flexible poly pipe to avoid crushing the plastic pipe when tightening the seal.
6. Support the pipe so that there are no dips or sags in the pipe, so it doesn't strain the pump body, and so that it slopes slightly upward from the well to the pump (high spots can cause air pockets which can air lock the pump). Seal the suction pipe joints with teflon tape. Joints must be air- and water-tight. If the suction pipe can suck air, the pump cannot pull water from the well.

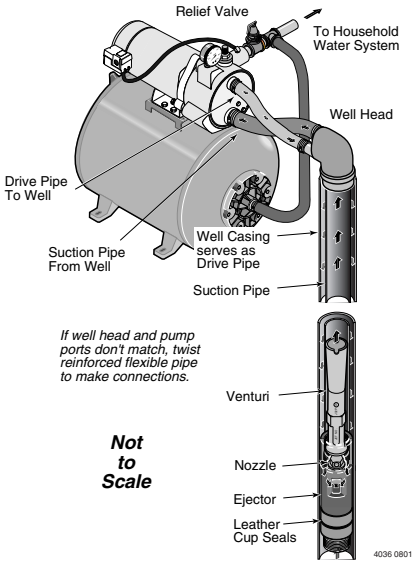


Figure 8: Typical 2" Deep Well Installation

2" WELL (Figure 8)

1. Install the control valve, pressure gauge, and deep well plug in the pump body. See Figure 2. Purchase Model MDWC Deep Well Conversion Kit to obtain these parts.
2. Mount the pump as close to the well as possible.
3. Install a flexible pipe between the well head and the pump so the connection will be correct. Connect small port to small port and large port to large port.
   NOTICE: Simer jet pumps have the suction port (the larger port) below the drive port. See Figure 3.
4. Run the drive pipe and the suction pipe from the well to the pump. Support the pipe so that there are no dips or sags in the pipe, so it doesn't strain the pump body, and so that it slopes slightly upward from the well to the pump (high spots can cause air pockets which can air lock the pump). Seal the suction pipe joints with Teflon tape™. Joints must be air- and water-tight. If the suction pipe can suck air, the pump cannot pull water from the well.

PRE-CHARGE TANK CONNECTION (Figure 9)

If your system uses a pre-charged tank, it should be connected to the pump as shown in Figure 9. The relief valve must be capable of passing the entire pump capacity at 100 PSI pressure.

Check the pre-charge of the air in the tank with an ordinary tire gauge. The pre-charge is measured *when there is no water pressure in the tank.* Disconnect the power to the pump and drain the tank before checking the pre-charge. Your pump has a 20/40 PSI switch (Models 2805/6/10E) or a 30/50 PSI switch (Model 2815E), so the tank pre-charge pressure should be 18 PSI (Models 2805/6/10E) or 28 PSI (Model 2815E). That is, it should be 2 PSI lower than the cut-in pressure of the pressure switch.

NO AVC is required for a pre-charged tank; the 1/4" NPT AVC port on the pump body should be plugged.

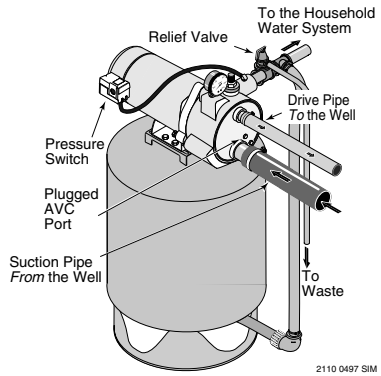


Figure 9: Pre-charged Tank Connections

STANDARD TANK CONNECTION (Figure 10)

If your system uses a standard tank, connect it to the pump as shown in Figure 10. The relief valve used with a standard tank must be capable of passing the entire pump capacity at 75 PSI pressure.

Connect the Air Volume Control (AVC) tube to the 1/4" NPT AVC port on the pump body. Run the tubing from the pump's AVC port to the AVC mounted on the tank. See the instructions provided with the tank and the AVC for details.

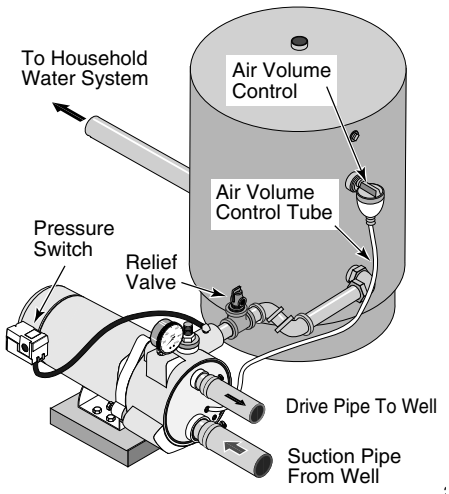


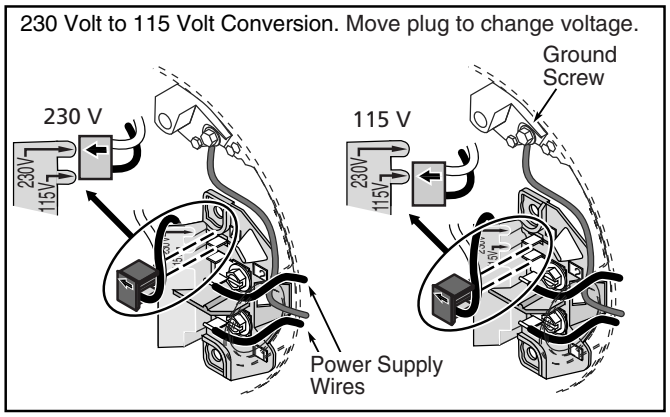
Figure 10: Standard Tank Connections

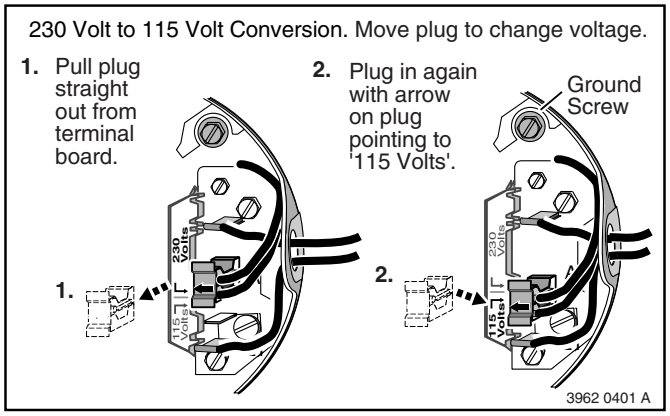
Sealing Pipe Joints

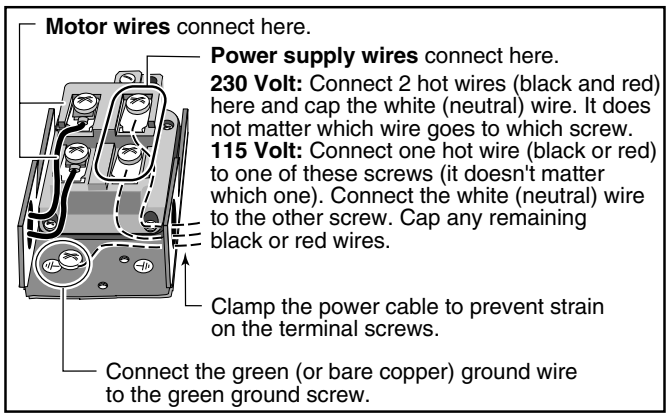
Use only Teflon tape for making all threaded connections to the pump itself. **Do not use pipe joint compounds on plastic pumps:** they can react with the plastic in pump components. Make sure that all pipe joints in the suction pipe are air tight as well as water tight. *If the suction pipe can suck air, the pump will not be able to pull water from the well.*

⚠ Hazardous voltage. Can shock, burn or kill. Disconnect the power before working on pump, motor, pressure switch, or wiring.

Your Motor Terminal Board (under the motor end cover) and Pressure Switch look like one of those shown below. Convert to 115 Volts as shown. Do not change motor wiring if line voltage is 230 Volts or if you have a single voltage motor. Connect power supply as shown for your type of switch and your supply voltage.




230 Volt to 115 Volt Conversion. Move plug to change voltage.
1. Pull plug straight out from terminal board.
2. Plug in again with arrow on plug pointing to '115 Volts'.
Ground Screw
3962 0401 A


Motor wires connect here.
Power supply wires connect here.
230 Volt: Connect 2 hot wires (black and red) here and cap the white (neutral) wire. It does not matter which wire goes to which screw.
115 Volt: Connect one hot wire (black or red) to one of these screws (it doesn't matter which one). Connect the white (neutral) wire to the other screw. Cap any remaining black or red wires.
Clamp the power cable to prevent strain on the terminal screws.
Connect the green (or bare copper) ground wire to the green ground screw.

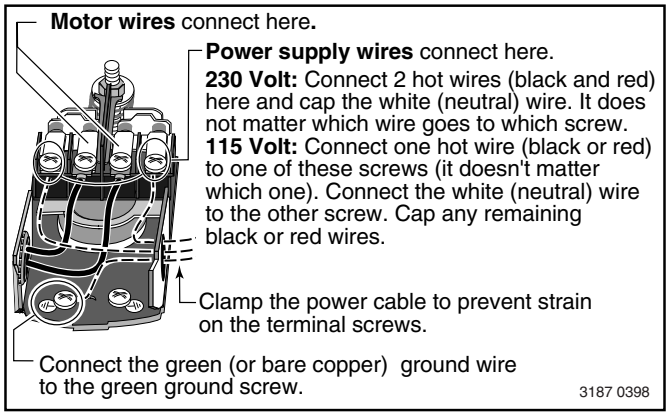

Motor wires connect here.
Power supply wires connect here.
230 Volt: Connect 2 hot wires (black and red) here and cap the white (neutral) wire. It does not matter which wire goes to which screw.
115 Volt: Connect one hot wire (black or red) to one of these screws (it doesn't matter which one). Connect the white (neutral) wire to the other screw. Cap any remaining black or red wires.
Clamp the power cable to prevent strain on the terminal screws.
Connect the green (or bare copper) ground wire to the green ground screw.
3187 0398

Figure 11: Motor wiring connections through Pressure Switch. Match motor voltage to line voltage

⚠WARNING Hazardous voltage. Can shock, burn, or kill. Connect ground wire before connecting power supply wires. Use the wire size (including the ground wire) specified in the wiring chart. Connect the pump to its own dedicated branch circuit with no other appliances on it.

⚠WARNING Explosion hazard. Do not ground to a gas supply line.

WIRING CONNECTIONS

⚠WARNING Fire hazard. Incorrect voltage can cause a fire or seriously damage the motor and voids the warranty. The supply voltage must be within ±10% of the motor nameplate voltage.

NOTICE: Dual-voltage motors are factory wired for 230 volts. If necessary, reconnect the motor for 115 volts, as shown. Do not alter the wiring in single voltage motors.

Install, ground, wire, and maintain your pump in compliance with the National Electrical Code (NEC) or the Canadian Electrical Code (CEC), as applicable, and with all local codes and ordinances that apply. Consult your local building inspector for code information.

Connection Procedure:

1. Connect the ground wire first as shown in Figure 11. The ground wire must be a solid copper wire at least as large as the power supply wires.
2. There must be a solid metal connection between the pressure switch and the motor for motor grounding protection. If the pressure switch is not connected to the motor, connect the green ground screw in the switch to the green ground screw under the motor end cover. Use a solid copper wire at least as large as the power supply wires.
3. Connect the ground wire to a grounded lead in a service panel, to a metal underground water pipe, to a metal well casing at least ten feet (3M) long, or to a ground electrode provided by the power company or the hydro authority.
4. Connect the power supply wires to the pressure switch as shown in Figure 11.

Wiring Chart – Recommended Wire and Fuse Sizes

Model	HP	Max Load Amps	Branch Fuse Rating Amps	Distance in Feet (Meters); Wire Size AWG (mm²)				
				0-100 (0-30)	101-200 (31-61)	201-300 (62-91)	301-400 (92-122)	401-500 (123-152)
115 Volts:								
2805E-01	1/2	9.9	15	14(2)	12(3)	10(5.5)	8(8.4)	8(8.4)
2806E-01	1/2	9.9	20	12(3)	10(5.5)	8(8.4)	6(14)	6(14)
2810E-01	3/4	12.4	20	12(3)	10(5.5)	8(8.4)	6(14)	6(14)
2815E-01	1	14.8	20	12(3)	8(8.4)	6(14)	6(14)	4(21)
230 Volts:								
2805E-01	1/2	4.95	15	14(2)	14(2)	14(2)	14(2)	12(3)
2806E-01	1/2	4.95	15	14(2)	14(2)	14(2)	12(3)	12(3)
2810E-01	3/4	6.2	15	14(2)	14(2)	14(2)	12(3)	12(3)
2815E-01	1	7.4	15	14(2)	14(2)	14(2)	12(3)	10(5.5)

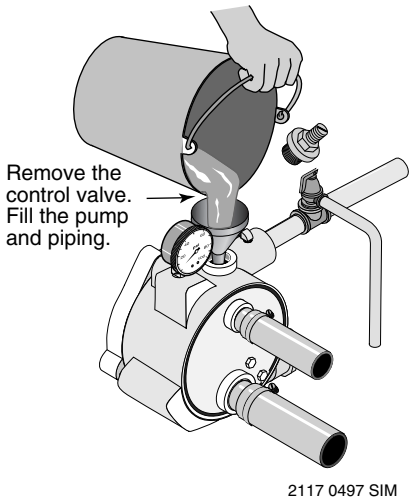


Figure 12: Fill Pump

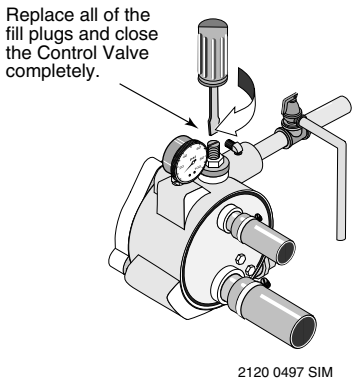


Figure 13: Replace the Fill Plugs and Control Valve

⚠ CAUTION **Burn hazard. Never the run pump dry.** Running the pump without water may cause pump to overheat, damaging seal and possibly causing burns to persons handling pump. Fill pump with water before starting.

⚠WARNING **Hazardous pressure. Risk of explosion.** Never run the pump against a closed discharge. To do so can boil water inside pump, causing hazardous pressure in unit, risk of explosion and possibly scalding persons handling pump.

1. Remove the control valve and fill the pump (see Figure 12). Fill all piping between the pump and the well, and make sure that all piping in the well is full. If you have also installed a priming tee in the suction piping, remove the plug from the tee and fill the suction piping.
2. Replace the fill plugs and the control valve completely (see Figure 13).
3. Power on! Start the pump and watch the pressure gauge. The pressure should build rapidly to 40 PSI (Models (2805/6/10E) or 50 PSI (Model 2815E), as the pump primes.
4. After 2 or 3 minutes, the gauge should show pressure. If not, stop the pump, remove the fill plugs, reopen the control valve, and refill the pump and piping. You may have to repeat this two or three times in order to get all the trapped air out of the piping. Don't forget to close the control valve each time before you start the pump.
5. When the pressure has built up and stabilized at about 40 PSI (Models (2805/6/10E) or 50 PSI (Model 2815E), slowly open the control valve (see Figure 14) and let the pressure drop until the pressure gauge needle starts to flutter. When the needle flutters, close the valve just enough to stop the flutter. Your pump is now operating at its most efficient point.
6. After the pump has built up pressure in the system and shut off, check the pressure switch operation by opening a faucet or two and running enough water out to bleed off the pressure until the pump starts. The pump should start when the pressure drops to 20 PSI (Models (2805/6/10E) or 30 PSI (Model 2815E) and stop when the pressure reaches 40 PSI (Models (2805/6/10E) or 50 PSI (Model 2815E). Run the pump through one or two complete cycles to verify the correct operation. This will also help clean the system of dirt and scale dislodged during installation.

Congratulations on a successful installation.

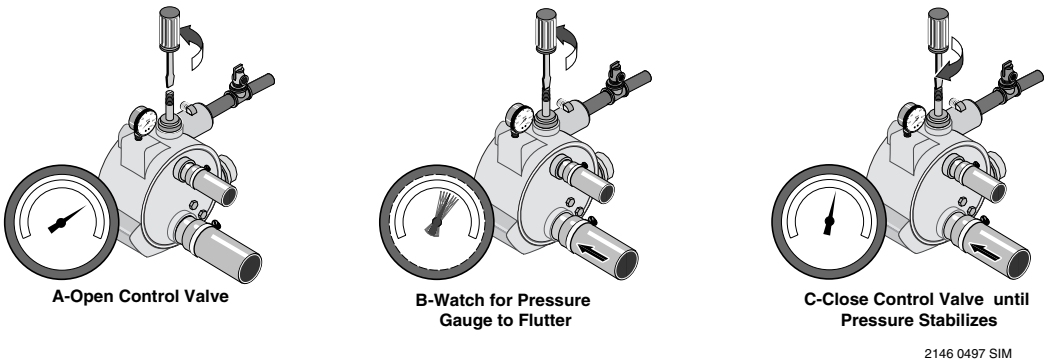

A-Open Control Valve
B-Watch for Pressure Gauge to Flutter
C-Close Control Valve until Pressure Stabilizes
2146 0497 SIM

Figure 14: Set Control Valve

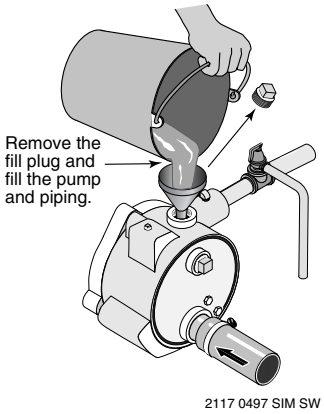


Figure 15: Remove the Fill Plug and Fill the Pump

If you were unsuccessful, please refer to the Troubleshooting section or call our customer service technical staff.

⚠ CAUTION **Burn hazard. Never run pump dry.** Running the pump without water may cause the pump to overheat, damaging the seal and possibly causing burns to persons handling the pump. Fill the pump with water before starting.

⚠WARNING **Hazardous pressure. Risk of explosion.** Never run pump against closed discharge. To do so can boil water inside pump, causing hazardous pressure in unit, risk of explosion and possibly scalding persons handling pump.

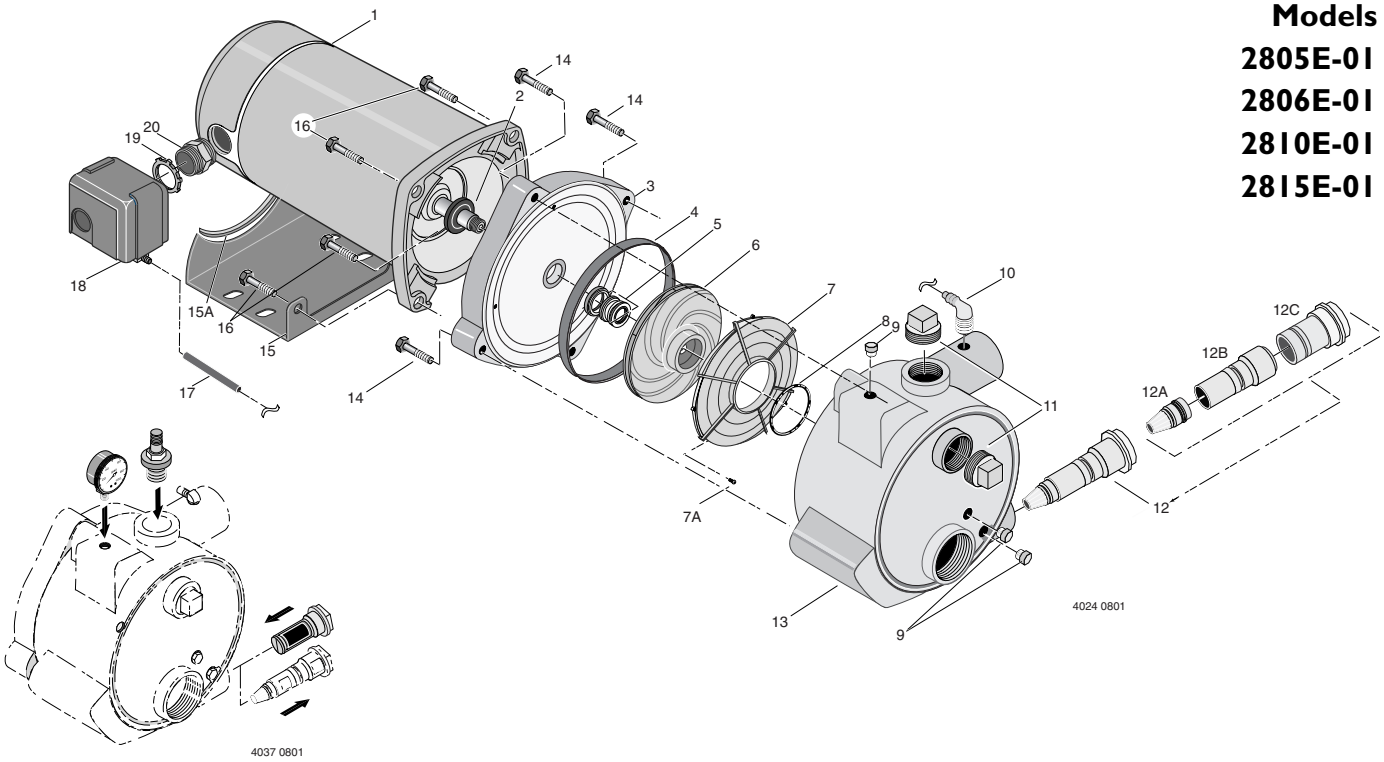
1. Remove the fill plug and fill the pump (see Figure 15). Fill all piping between the pump and the well, and make sure that all piping in the well is full. If you have also installed a priming tee in the suction piping, remove the plug from the tee and fill the suction piping.
2. Replace the fill plug.
3. Power on! Start the pump. The pump should pump water in two or three minutes.
4. If you don't have water after 2 or 3 minutes, stop the pump and remove the fill plugs. Refill the pump and piping. You may have to repeat this two or three times in order to get all of the trapped air out of the piping.
5. After the pump has built up pressure in the system and shut off, check the pressure switch operation by opening a faucet or two and running enough water out to bleed off pressure until the pump starts. The pump should start when the pressure drops to 30 PSI and should stop when pressure the reaches 50 PSI. Run the pump through one or two complete cycles to verify correct operation. This will also help clean the system of dirt and scale dislodged during installation.

Congratulations on a successful installation.

If you were unsuccessful, please refer to the Troubleshooting section or call our customer service technical staff.

SYMPTOM	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Motor will not run	Disconnect switch is off	Be sure switch is on
	Fuse is blown or circuit breaker tripped	Replace fuse or reset circuit breaker
	Starting switch is defective	DISCONNECT POWER; Replace starting switch
	Wires at motor are loose, disconnected, or wired incorrectly	Refer to instructions on wiring (Pages 8 and 9). DISCONNECT POWER; check and tighten all wiring.
		⚠WARNING Capacitor voltage may be hazardous. To discharge capacitor, hold insulated handle screwdriver BY THE HANDLE and short capacitor terminals together. Do not touch metal screwdriver blade or capacitor terminals. If in doubt, consult a qualified electrician.
	Pressure switch contacts are dirty	DISCONNECT POWER and file contacts with emery board or nail file.
Motor runs hot and overload kicks off	Motor is wired incorrectly	Refer to instructions on wiring
	Voltage is too low	Check with power company. Install heavier wiring if wire size is too small (See Electrical / Wiring Chart).
	Pump cycles too frequently	See section below on too frequent cycling
Motor runs but no water is delivered*	Pump in new installation did not pick up prime through: 1. Improper priming 2. Air leaks 3. Leaking foot valve or check valve	In new installation: 1. Re-prime according to instructions 2. Check all connections on suction line, AVC and ejector 3. Replace foot valve or check valve
* (Note: *Stop pump;* then check prime before looking for other causes. Unscrew priming plug and see if water is in priming hole).	Pump has lost prime through: 1. Air leaks 2. Water level below suction pipe inlet	In installation already in use: 1. Check all connections on suction line and shaft seal 2. Lower suction line into water and re-prime. If receding water level in well exceeds suction lift, a deep well pump is needed.
	Foot valve or strainer is plugged	Clean foot valve or strainer
	Ejector or impeller is plugged	Clean ejector or impeller
	Check valve or foot valve is stuck shut	Replace check valve or foot valve
	Pipes are frozen	Thaw pipes. Bury pipes below frost line. Heat pit or pump house.
	Foot valve and/or strainer are buried in sand or mud	Raise foot valve and/or strainer above bottom of water source. Clean foot valve and strainer.
	Water level is too low for shallow well setup to deliver water	A deep well jet package may be needed (over 25 ft. to water) to deliver water
Pump does not deliver water to full capacity	Water level in deep well is lower than estimated	Replace nozzle and venturi with correct combination for the well; lower the ejector to correct level in the well
	Steel piping (if used) is corroded or limed, causing excess friction	Replace with plastic pipe where possible, otherwise with new steel pipe
	Piping is too small in size	Use larger piping
Pump delivers water but does not shut off or pump cycles too frequently	Pressure switch is out of adjustment or contacts are welded together	DISCONNECT POWER; adjust or replace pressure switch
	Faucets have been left open	Close faucets
	Venturi, nozzle or impeller is clogged	Clean venturi, nozzle or impeller
	Water level in deep well is lower than estimated	Replace nozzle and venturi with correct combination for the well
	Standard pressure tank is waterlogged and has no air cushion	Drain tank to air volume control port. Check AVC for defects. Check for air leaks at any connection.
	Pipes leak	Check connections
	Foot valves leak	Replace foot valve
	Air charge too low in pre-charged tank	DISCONNECT POWER and open faucets until all pressure is relieved Using tire pressure gauge, check air pressure in tank at valve stem located on the tank. If less than pressure switch cut-in setting (30-50 PSI), pump air into tank from outside source until air pressure is 2 PSI less than cut-in setting of switch. Check air valve for leaks (use soapy solution) and replace core if necessary.
Air spurts from faucets	Pump is picking up prime	When pump picks up prime, all air will be ejected
	Leak in suction side of pump	Suction pipe is sucking air. Check joints for leaks.
	Well is gaseous	Consult factory about installing a sleeve in the well
	Intermittent over-pumping of well. (Water drawn down below foot valve.)	Lower foot valve if possible, otherwise restrict pump discharge

Models
2805E-01
2806E-01
2810E-01
2815E-01

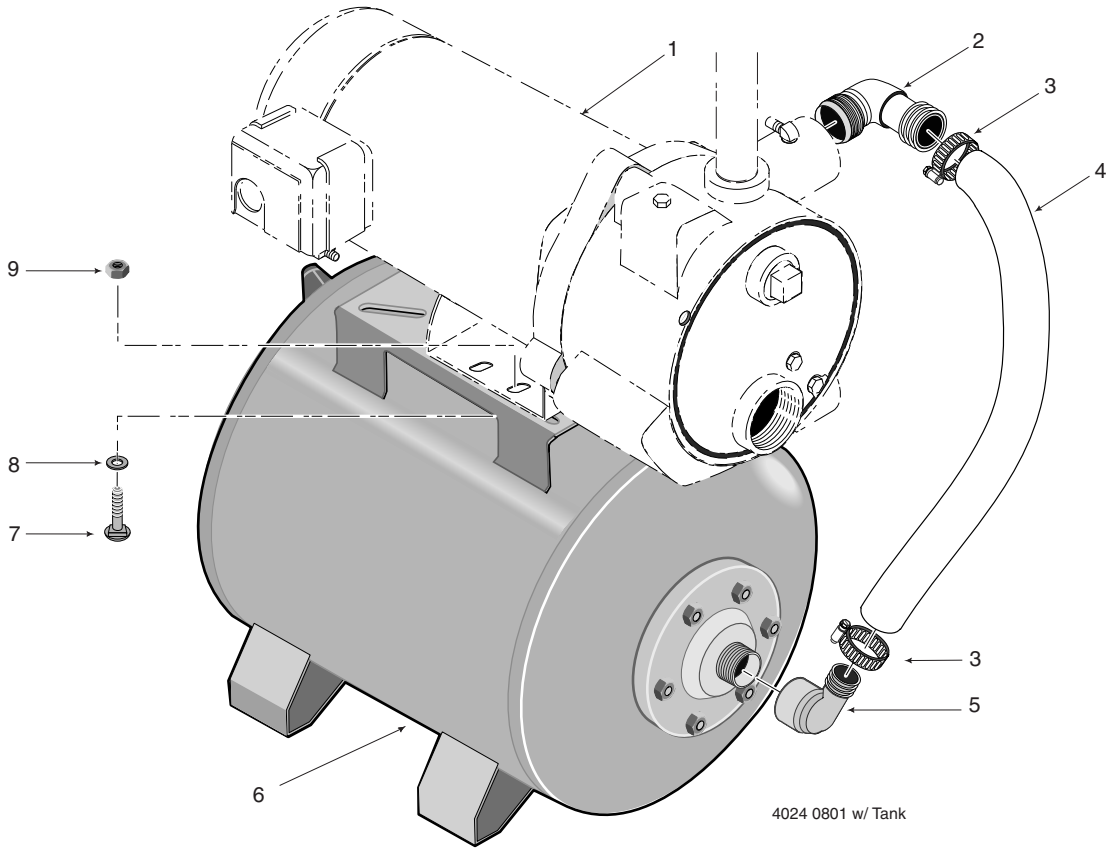


Model MDWC Deep Well Conversion Kit - Purchase Separately.

Key No.	Part Description	Qty.	2805E-01 2806E-01 1/2 HP	2810E-01 3/4 HP	2815E-01 1 HP
1	Motor	1	J218-582A	J218-590	J218-596
2	Water Slinger	1	17351-0009	17351-0009	17351-0009
3	Seal Plate	1	L3-28	L3-28	L3-28A
4	Seal Plate Gasket	1	345-038	345-038	345-038
5	Shaft Seal	1	U109-6A	U109-6A	U109-6A
6	Impeller	1	C105-258P	C105-258PA	C105-258PB
7	Diffuser	1	595-110	595-110	595-109
7A	Screws, Diffuser	3	670-698	670-698	670-698
8	Diffuser O-Ring	1	546-032	546-032	546-032
9	Pipe Plug, 3/4" NPT, Hex Head	3	U78-941ZPV	U78-941ZPV	U78-941ZPVP
10	Quick Connect – Elbow	1	U111-212T	U111-212T	U111-212T
11	Pipe Plug, 1" NPT Square Head	2	U78-61GPS	U78-61GPS	U78-61GPS
12	Shallow Well Injector Assembly	1	992-872	992-873	992-874
12A	Nozzle	1	541-010	541-008	541-009
12B	Venturi Tube	1	830-057	830-055	830-056
12C	Deep Well Cap	1	143-093	143-093	143-093
13	Pump Body	1	404-144	404-144	404-144
14	Capscrews, 3/8-16x1-3/4"	4	U30-75ZP	U30-75ZP	U30-75ZP
15	Base	1	J104-9	J104-9	J104-9
15A	Motor Pad	1	C35-5	C35-5	C35-5
16	Capscrew, 3/8-16x1"	2	U30-74ZP	U30-74ZP	U30-74ZP
17	Tubing, Pressure Switch	1	U37-673ZP	U37-673ZP	U37-673ZP
18	Pressure Switch	1	U217-1202	U217-1202	U217-1202
19	Lock Nut	1	U36-112ZP	U36-112ZP	U36-112ZP
20	Connector	1	L43-5C	L43-5C	L43-5C

Purchase Deep Well Conversion Kit, Model MDWC, separately. Kit includes Deep Well Plug (replaces Shallow Well Injector), Control Valve (replaces Fill Plug), and Pressure Gauge.

Model 2806E-01



Key No.	Part Description	Qty.	2806E-01 1/2 HP
1	Pump	1	†
2	Fitting, PVC	1	322-006
3	Clamp, Hose	2	U19-55SS
4	Hose, Clear	1	403-005
5	Fitting, 90 Deg.	1	322-004
6	Tank, HT7, 15 Gal. Horiz.	1	998-010
7	Carriage Bolt, 5/16 -18 X 1-1/4″	2	U30-231ZP
8	Washer, 3/8″ Reg. 1-7/16″	2	U43-62ZP
9	Nut, 5/16 -18	2	U36-37ZP
**	Pump/Tank Assembly	1	992-871

† For pump parts see the Previous Page.
** Includes Key Numbers 2, 3, 5, 7, 8, and 9, plus No. 992-872 Shallow Well Injector Assembly.